Med & Health Jun 2019; 14(1): 275-279 https://doi.org/10.17576/MH.2019.1401.29

CASE REPORT

Pain in the Genital: A Clue to a Rare Injury

ER LZ, JOHAR MJ

Department of Emergency Medicine, Faculty of Medicine, Universiti Kebangsaan Malaysia Medical Centre, Jalan Yaacob Latif, Bandar Tun Razak, 56000 Cheras, Kuala Lumpur, Malaysia.

ABSTRAK

Dalam trauma, satu pendekatan yang sistematik telah dibentuk untuk membantu pegawai perubatan dan pakar bedah mengenalpasti kecederaan yang akan meragut nyawa supaya rawatan boleh diberi dengan serta-merta untuk menyelamatkan nyawa dan mengurangkan kadar kematian. Pendekatan ini juga melibatkan pemeriksaan dari kepala ke kaki supaya semua kecederaan dapat dikenal pasti dan dirawat. Kepatahan tulang sakrum sungguhpun jarang dijumpai, boleh membawa komplikasi yang serius. Kes ini akan membincangkan seorang pesakit trauma yang datang dengan simptom sakit di alat kelamin di mana pemeriksaan adalah normal. Kepatahan tulang sakrum hanya dijumpai apabila x-ray bahagian pinggul dibuat, dan tidak disyaki pada mulanya. Mujur pesakit ini tidak mengalami sebarang komplikasi yang serius. Tujuan kes ini dilaporkan adalah untuk membincangkan tentang kepentingan untuk menyiasat dengan lebih lanjut mengenai aduan pesakit, seperti dalam kes ini di mana pesakit mengadu mengenai kesakitan di alat kelamin yang seterusnya berakhir dengan kepatahan sakrum.

Kata kunci: kepatahan, sakrum, trauma

ABSTRACT

In trauma, a systematic approach has been developed to assist physician and surgeon in identifying immediate life-threatening injuries so that prompt intervention can save lives and reduce mortality. This approach also called for a head-to-toe examination so that other injuries are not missed out. Sacral fracture, although rare, but could have serious complications. The present case discusses about a trauma patient who presented with complain of genitalia pain with normal genitalia examination. Sacral fracture was not suspected and was only detected when a pelvic radiograph was ordered as part of the trauma survey. Fortunately, the patient had no complications resulting from the injury itself. The aim of the present

Address for correspondence and reprint requests: Er Lay Ze. Department of Emergency Medicine, Faculty of Medicine, Universiti Kebangsaan Malaysia Medical Centre, Jalan Yaacob Latif, Bandar Tun Razak, 56000 Cheras, Kuala Lumpur, Malaysia. Tel: +603-9145 6005 Email: elise.er@yahoo.com

case is to discuss the importance of investigating beyond patient's complaint, as in this case the patient only complained of genitalia pain which ended up as a sacral fracture.

Keywords: fracture, sacrum, trauma

INTRODUCTION

Sacral injury is a rare injury encountered in trauma (Beckmann & Chinapuvvula 2017). A systematic method of approaching a trauma patient in Advanced Trauma Life Support (ATLS) protocol was taught to emergency doctors so that any life-threatening injury is not missed out and may be promptly attended if any such was found. Sacral fracture, although not life-threatening, could have serious complications which are neurological injury (Beckmann & Chinapuvvula 2017) and urological injury with concurrent pelvic fracture (Alfayez et al. 2016). However, due to its rarity, it is frequently overlooked and hence, not properly treated (Rodrigues-Pinto et al. 2017). Due to their rarity, they are frequently underdiagnosed and mistreated. Only 5% of sacral fractures occur in isolation. Injuries most often associated with sacral fractures include neurologic injuries (present in up to 50% of sacral fractures). There are less reports on the diagnosis and management (Rodrigues-Pinto et al. 2017). Only 5% of sacral fractures occur in isolation. Injuries most often associated with sacral fractures include neurologic injuries (present in up to 50% of sacral fractures, and treatment is mostly determined on a case-by-case basis. To be able to identify this injury clinically, it remains a challenge to emergency physicians, and they need to have a high index of suspicion from other injuries that are identified during the trauma survey so that the diagnosis is not missed out. Any trauma patient complaining of sacrococcygeal pain should be further investigated for sacral fracture (Yi & Hak 2012). Here, we present a case of sacral fracture where the only clue to the diagnosis was genitalia pain.

CASE REPORT

A 43-year-old lady was involved in motor vehicle accident on the day of presentation. She was wearing a helmet and a pillion rider with a riding speed of 70 km/h during the incident. They were hit from their side by a car, but she could not remember the exact mechanism of fall. She denied any event of loss of consciousness.

Upon arrival to the Emergency Department, her vitals were stable with blood pressure of 117/56 mmHg, heart rate of 90 bpm, temperature 37°C, respiratory rate 18 breaths/minute and oxygen saturation was 98% under room air. She was able to speak and her airway was intact. She was not tachypnoeic and there was no paradoxical breathing. Apex beat was not displaced and trachea was centrally

located. Chest spring was negative and breath sound were equal bilaterally. Her peripheries were warm. Pulse volume and perfusion was good. Her abdomen was soft and not distended, and pelvic spring was negative. There was no long bone deformity seen. Her GCS was full and pupils were equal and reactive to light bilaterally. She complained of pain over her genital area. However, inspection of the genital area and vaginal examination revealed no bruises or any external injuries.

Upon log roll, a big abrasion wound was seen over the left side of gluteal region and left shoulder. There was tenderness over L5 area. Per rectal examination revealed tenderness upon inserting the finger but otherwise no bruise or external wound was seen. No bleeding seen from anal or genitalia area. Bulbocavernosus reflex and other lower limb reflexes were intact. Extended focused assessment sonography for trauma (EFAST) was negative. Her sensation over bilateral lower limbs were intact. However, the power of left lower limb was reduced due to pain at her lower back.

Subsequently, she was sent for radio-imaging. Her plain radiograph revealed a closed fracture of left inferior pubic rami and transverse fracture of sacrum. She was referred to orthopaedic team for further management. In view of multiple fractures at pelvic area, she was then subjected for a CT pelvic which revealed multiple fractures of the left-sided pelvis as below and these include comminuted fracture of the left inferior pubic ramus, fracture of left superior pubic ramus, comminuted fracture of left ilium, comminuted fracture of the S5 sacrum with sacrococcygeal displacement.

Her urinary bladder was catheterized and clear urine was seen. However, microscopically, there was presence of red blood cells. With regard to the blood results her haemoglobin level was 12.5 d/dL, white cell count was 16.3 X 10^9/L, platelet was 104 X 10^9/L. Her sodium level was 138 mmol/L, potassium 3.9 mmol/L, urea 3.2 mmol/L and creatinine 63.3 mol/L. She was admitted to the Orthopaedic Ward and was started on regular painkiller for the pain control. Her injury was treated conservatively. Throughout the admission, there was no worsening in her injury and the neurology status. She was subsequently discharged on day 7 of admission. She was seen back in the clinic six weeks after discharged able to ambulate with walking stick.

DISCUSSION

Sacrum and coccyx form the lower part of the vertebral column. Sacral fracture is relatively rare and traumatic sacral fracture only occur at a reported rate of 2 per 100,000 (Beckmann & Chinapuvvula 2017). It is usually associated with pelvic fracture in trauma cases. The mechanism of injury might be able to give some clue for the attending physician to suspect the possibility of sacral fracture. However, it is still frequently missed in the primary survey due to the rarity of occurrence (Rodrigues-Pinto et al. 2017). In this patient, the index of suspicion of the possibility of sacral fracture was low because patient could

not remember the exact mechanism of injury. The only clue to trigger a healthcare provider to order for a pelvic radiograph was the pain over the genitalia and L5 area, in which the genitalia and per rectal examination were unremarkable.

Diagnosing sacral fracture clinically is not too easy, and it is usually associated with urinary tract injury. Our patient particularly complained of pain at genitalia area. Hence, a careful and thorough examination at the pelvic area may alarm the attending physician to the possibility of a sacral fracture. A careful digital rectal examination, along with vaginal examination should be conducted in any patient complaining of pain in the genitalia area. There is also a possibility of urinary bladder injury in patients with sacral injury. Gross hematuria is a hallmark sign of bladder injury in the presence of pelvic fracture in 16-27% of patients (Alfayez et al 2016). However, microscopic hematuria in the absence of overt signs of lower urinary tract injury is probably not indicative of bladder rupture (Figler et al. 2012), just as in this case, where there was no gross hematuria but microscopic examination of the urine did detect the presence of red blood cells. Cystography was not done after review by urology team. In females with gross hematuria, blood in introitus, and difficulty in placing a urethral catheter, a vaginal speculum examination, proctoscopy, or urethroscopy should be considered (Figler et al. 2012). These are clues that can be obtained from physical examination itself, which will guide the emergency physicians to the possibility of sacral fractures.

Besides clinical examination, radiograph also play a role in diagnosing sacral injury. Nevertheless, only 10-30 % of the fractures were identified on a plain pelvic radiograph (Beckmann & Chinapuvvula 2017). A large percentage of these are missed out, and the reasons could be the gas and bowel which overlies the sacrum, osteoporotic and osteochondrotic changes masking the fracture (Schicho et al. 2016). This leads to the use of computed tomography (CT) in diagnosing of this condition (Beckmann & Chinapuvvula 2017). However, if CT is not immediately available, especially in a rural hospital, the attending physician can order an inlet, outlet, and lateral views of the pelvic. Transverse process fractures of the L5 vertebra and pubic rami fractures are both commonly seen in association with sacral fractures and can be considered indirect evidence of a sacral fracture (Beckmann & Chinapuvvula 2017). The plain radiograph of this patient showed an obvious fracture of left inferior pubic rami and hence, she was subjected to CT scan.

The complication of sacral fracture is not limited to only urinary tract injury, but it also associated with neurological injuries (Rodrigues-Pinto et al. 2017) and this includes loss of ankle reflex, the external anal and bladder sphincter, and parasympathetic innervation of the detrusor muscle of the bladder which are all contributed by sacral plexus (Chiaruttini 1987). Fortunately, there was no neurological deficit in this case. Regular neurological examination is important so that the physician will be able to pick up any

signs of neurological injury which was not initially apparent. When neurological deficit is present, these fractures are considered unstable. If the deficit is severe or persistent, patient may require treatment with decompression by sacral laminectomy (Chiaruttini 1987).

CONCLUSION

In conclusion, emergency physician have to have a high index of suspicion for sacral fractures due to its rarity and difficulty in detecting both clinically and radiologically on a plain radiograph which is part of the primary adjunct in trauma survey. Missing a sacral fracture will risk missing a urinary tract and sacral plexus injury, which is usually not immediately apparent. Hence, conducting a proper trauma survey with high index of suspicion may ultimately lead the physician to this important diagnosis that is frequently missed out.

REFERENCES

Alfayez, S.M., Allimmia, K., Alshammri, A., Serro, F., Almogbel, R., Bin Dous, A., Almannie, R., Palencia, J. 2016. Urological injuries associated with pelvic fractures: A case report of a detached bone segment inside the bladder. *Int J Surg Case Rep* **28**: 188-91.

Beckmann, N.M., Chinapuvvula, N.R. 2017. Sacral fractures: classification and management. *Emerg Radiol* **24**(6): 605-17.

Chiaruttini, M. 1987. Transverse sacral fracture with transient neurologic complication. *Ann Emerg Med* **16**(1): 111-3.

Figler, B.D., Hoffler, C.E., Reisman, W., Carney, K.J., Moore, T., Feliciano, D., Master, V. 2012. Multi-disciplinary update on pelvic fracture associated bladder and urethral injuries. *Injury* **43**(8): 1242-9.

Rodrigues-Pinto, R., Kurd, M.F., Schroeder, G.D., Kepler, C.K., Krieg, J.C., Holstein, J.H., Bellabarba, C., Firoozabadi, R., Oner, F.C., Kandziora, F., Dvorak, M.F., Kleweno, C.P., Vialle, L.R., Rajasekaran, S., Schnake, K.J., Vaccaro, A.R. 2017. Sacral Fractures and Associated Injuries. *Global Spine J* **7**(7): 609-16

Schicho, A., Schmidt, S.A., Seeber, K., Olivier, A., Richter, P.H., Gebhard, F. 2016. Pelvic X-ray misses out on detecting sacral fractures in the elderly – Importance of CT imaging in blunt pelvic trauma. *Injury* **47**(3): 707-10

Yi, C., Hak, D.J. 2012. Traumatic spinopelvic dissociation or U-shaped sacral fracture: A review of the literature. *Injury* **43**(4): 402-8.

Received: 23 Jan 2019
Accepted: 30 May 2019